

I. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An expandable stent comprising:
a proximal end and a distal end in communication with one another,
a tubular wall disposed between the proximal end and the distal end, the tubular wall having a longitudinal axis and a porous surface defined by a plurality intersecting members arranged to define a first repeating pattern comprised of a polygon having (i) a pair of side walls substantially parallel to the longitudinal axis, (ii) a concave-shaped first wall having a first apex, and (iii) a convex-shaped second wall having a second apex, the first wall and the second wall connecting the side walls, at least one of the first apex and the second apex being substantially flat, the stent being expandable from a first, contracted position to a second, expanded position upon the application of a radially outward force on the stent;

wherein the side wall comprises at least a flex member connected to at least one straight segment disposed substantially parallel to the longitudinal axis, the flex member comprising a curved shape.

Claims 2-54 (Cancelled).

55. (New) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises an S shape.

56. (New) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises an U shape.

57. (New) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises at least one lateral section having a round apex.

58. (New) The stent defined in Claim 1, wherein the flex member, in two dimensions, comprises a single lateral section, the lateral section comprising a pair of straight segments substantially orthogonal to the longitudinal axis, the straight segments being interconnected by a curved section.

59. (New) The stent defined in Claim 1, further comprising a medicinal coating disposed thereon.

60. (New) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent defined in Claim 7.

61. (New) An unexpanded stent comprising:

a tubular wall having a series of undulating circumferential portions, each circumferential portion comprising alternating peaks and valleys;

the tubular wall also having a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface;

a longitudinal portion connecting a peak in a first circumferential portion with a valley in a second circumferential portion adjacent to the first circumferential portion; and

each of said plurality of longitudinal portions having a flexure member interposed between a pair of straight strut portions which are disposed parallel to a longitudinal axis of the stent, the flexure member, in two dimensions, comprising a U-shape.

62. (New) The stent defined in Claim 61, wherein said flexure member, in two dimensions, has a width less than a width of said undulating circumferential portions when measured on an outer surface of the tubular wall.

63. (New) The stent defined in Claim 61, wherein the porous, cylindrical surface comprises a repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent longitudinal axis, and wherein the flexure member is disposed in each of the side walls.

64. (New) The stent defined in Claim 63, wherein the polygon further comprises a first wall having a concave shape and a second wall having a convex shape.

65. (New) The stent defined in Claim 64, wherein at least one of the first wall and the second wall has a flat apex and the other of the first wall and the second wall has a rounded apex.

66. (New) The stent defined in Claim 65, wherein the flat apex comprises a pair of rounded shoulders.

67. (New) The stent defined in Claim 61, further comprising a medicinal coating disposed thereon.

68. (New) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent of Claim 67.

69. (New) An unexpanded stent comprising:
a tubular wall comprising: (i) a series of undulating circumferential portions, each circumferential portion comprising alternating peaks and valleys, and (ii) a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface comprising a repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent longitudinal axis, and wherein a flexure member is disposed in each of the side walls, the polygon further comprising a first wall having a concave shape and a second wall having a convex shape,

at least one of the first wall and the second wall having a flat apex, and the other of the first wall and the second wall having a rounded apex, the flat apex comprising a pair of rounded shoulders;

a longitudinal portion connecting a peak in a first circumferential portion with a valley in a second circumferential portion adjacent to the first circumferential portion; and

each of said plurality of longitudinal portions having a curved flexure member that provides lateral flexibility to said stent and is disposed within each of said plurality of longitudinal portions, each said flexure member, in two dimensions, comprising a pair of substantially straight strut portions disposed substantially orthogonal to a longitudinal axis of the stent, the pair of substantially straight strut portions being interconnected by a curved portion.

70. (New) The stent defined in Claim 69, wherein the longitudinal portions are aligned in a spaced relationship parallel to a stent longitudinal axis.

71. (New) The stent defined in Claim 69, further comprising a medicinal coating disposed thereon.

72. (New) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent of Claim 71.